

**CLAIMS**

1. Apparatus for monitoring biofilm formation on a surface comprising:

- a member providing said surface for continuously moving into  
5 and out of a body of liquid; and
- a sensor for continuously measuring biofilm formation and for  
being located outside the body of liquid and for measuring biofilm  
formation on a measuring zone of the surface when disposed  
outside the body of liquid.

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2. Apparatus according to claim 1 wherein the member is a disk disposed  
inside a housing and rotatable about an axis, and wherein the housing is  
provided with a liquid inlet and a liquid outlet and a passage for the liquid  
extending through the housing from the inlet to the outlet, with at least a  
15 portion of the disk being disposed inside the passage, and wherein the  
liquid fills the housing only partly, the arrangement being such that as  
the member continuously rotates in the housing, at any given time a  
portion thereof is submerged in the liquid and another portion, providing  
the said measuring zone, is disposed outside the liquid.

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3. Apparatus according to claim 2 including a plurality of vanes mounted  
along the outer periphery of the disk and which extend from the disk to

aid rotation of the disk about its central axis, whilst the liquid flows from the inlet to the outlet along the passage.

- 5 4. Apparatus according to claim 2 or claim 3 wherein the sensor is disposed inside the housing above the level of the liquid, in use.
- 10 5. Apparatus according to any one of the preceding claims wherein the sensor includes a transmitter for transmitting a light beam onto said measuring zone and a receiver for receiving light reflected from the surface.
- 15 6. Apparatus according to any one of claims 1 to 4 wherein the disk is transparent and the transmitter and the receiver are located on opposite sides of the disk, the arrangement being such that the transmitter transmits a light beam onto said measuring zone and the receiver receives the light passing through the surface.
- 20 7. Apparatus according to any one of claims 2 to 6 wherein a plurality of bodies of different material are mounted on the disk in the measuring zone for observing biofilm formation on different materials.
8. A method for monitoring biofilm formation on a surface including the steps of:

- providing a body of liquid;
- providing a member including a surface having a measuring zone and for being disposed outside the body of liquid;
- 5       - continuously moving the surface into and out of the body of liquid;
- providing a sensor for measuring biofilm formation outside the body of liquid; and
- continuously measuring biofilm formation by measuring
- 10       light being received from the said measuring zone.

9. A method for monitoring biofilm formation according to claim 8 wherein the step of continuously moving the surface into and out of the body of liquid includes the step of rotating the member about a central axis, the

15       arrangement being such that a portion thereof is submerged in the liquid and another portion is outside the liquid.

10.A method for monitoring biofilm formation according to claims 8 or 9 which includes the further step of observing biofilm formation on different

20       types of materials.

11.A method for monitoring biofilm formation according to claim 10 wherein the step of observing biofilm formation on different types of materials

includes the steps of providing bodies of different types of materials, mounting the bodies on the member in the measuring zone so that they are rotated with the member and observing said biofilm accumulation thereon.

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12.Apparatus substantially as herein described and illustrated in the accompanying drawings.

10 13.A method for monitoring biofilm formation substantially as herein described and exemplified.